A Management Mode of Participatory Lectures in Colleges and Universities based on Factor Analysis

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Abstract
This paper analyzes the prominent issues existing in the management of university lectures, and through introducing the idea of “participatory management”, this paper solves the problem of university lecture management mode and analyzes the significance of participatory management for the university lecture management mode. From the perspective of stakeholders, this paper explores the necessity, feasibility and realization approach of the management mode of participatory lectures in universities. In the study, this paper tries to break through the shortcomings of the traditional lecture management mode, and explore new ways and ideas to attract students to participate in lectures under the new situation.

Keywords: Participatory, Lecture Management, Participatory Management, Stakeholder.

1. INTRODUCTION

Stakeholder Theory Provides a New Perspective of Economics for the Management Mode of College Participatory Lectures. Institutions of higher learning are a typical stakeholder organization with multiple stakeholders (Cui, 2016). With the rapid development of higher education and the increasingly fierce competition among colleges and universities, the influence of stakeholders on the survival and development of colleges and universities is becoming more and more significant, among which college students are undoubtedly one of the most important stakeholders (Liu, 2013). Many scholars and practitioners have carried on the related exploration, and the stakeholder theory will certainly give the beneficial enlightenment and the strong theory support to the related research. The management mode of participatory lectures in colleges and universities advocates the deep participation of students in the educational management activities related to their own growth and success. This will effectively highlight the status of college students as the interest body, and also strongly promote the rapid development of higher education cause. The concept of stakeholder was first proposed by the Institute affiliated to Stanford University in 1963. At that time, the concept definition was regarded as the concept of the field of economic activity and enterprise management. Since then, it has attracted wide attention from the academic circle, and Chinese and foreign scholars have defined the concept of stakeholders from different perspectives, among which the definition of Ansoff and Freeman has been widely recognized by the academic circle and the business community. In 1960s, the economist Ansoff proposed that: “If an enterprise wants to achieve the ideal state, it is necessary to weigh the interest demands of all stakeholders in the enterprise, including senior managers, general employees, investors, suppliers and consumers” (Bock, 2016). In 1980s, The American economist Freeman known as the master of the stakeholder theory further enriched and developed the definition of stakeholder (David and Janet, 2016). The definition is that “stakeholders are people or groups that can influence the realization of an organizational goal or can be influenced by the the process of achieving goals of organizations”.

World famous higher education expert think the university is not a uniform institution, but a society composed of various groups with autonomy. With the widespread application and gradually mature of stakeholder theory in the field of enterprise management, many scholars at home and abroad have considered whether the theory can be applied to other fields. Rosovsky, the American higher educationist, is regarded as the first person to carry out higher education research by using the theory of stakeholder. He used the research perspective of stakeholder to break the traditional ideas and regarded the institutions of higher learning as an institution composed of multiple stakeholders. He used the research perspective of stakeholder to break the traditional ideas and regarded the college as an institution composed of multiple stakeholders. Similarly, Henry Rosovsky, the scholar at Harvard University believed that colleges and universities are a typical stakeholder organization (Huang, Yang, Li and Zhong, 2010). He divided stakeholders into three levels: school administrators, teachers and students; school directors, alumni and donors; stakeholders who influence schools at a particular time, such as government, surrounding citizens, community, media groups and so on. In a word, the relevant research invariably and uniformly points out that students are the most important stakeholders in the first level of the interest related organizations of colleges and universities, are the prerequisite for the existence of institutions of higher learning, and are the important driving force to promote the development of colleges and universities. These research results further verify the core position of students in higher education management.
Stakeholder theory provides a solid theoretical basis and a new perspective for the management mode of university participatory lectures.

The traditional lecture management mode in Colleges and universities faces many outstanding problems. The lecture organizers distributed on different levels are various and they lack communication and coordination, which leads to the lack of phased planning of campus lectures. There is no scientific design and evaluation for the number of lectures, the related fields, the speakers, and the audience. Therefore, students reflect that they can not deeply understand the amount of knowledge gained in lectures, and the education, pertinence and planning of the lecture are not strong. The author has carried out the relevant investigation, and the results show that when famous experts talk about the hot spots and focus issues concerned by students, and about their professional areas, the attendance rate is high. For the unknown and task-based lectures, the attendance rate is very low. Thus, the speaker has no passion, and the organizers are not enthusiastic. In the interview, all the teaching units said that the most distressing thing was the “number of people given” lecture task. Even if it is difficult to get the ticket outside school, this form also makes students feel disgusted, and the effect is greatly reduced. The audiences of the lecture come from different majors and different departments in the university. When they face the problem in a field expounded by the same speaker, they hold different views and can not carry on the thorough discussion, which makes the lecture lack ideological collision. For the outside experts, due to the lack of the understanding of the audience, it is easy to appear the phenomenon of repeated classroom teaching content, the lecture lacks a flash point, and it is hard to resonate between the speaker and the students. In particular, the increasingly diversified student information channels make lecture content often lack novelty and frontier.

2. THE ROLE ANALYSIS OF COLLEGE STUDENTS IN THE ORGANIZATION OF SCHOOL STAKEHOLDERS

The university and its students interact with each other. The relationship between them is like fish and water, and plants and soil, and they can’t live without each other. Then, what role of the college students is in the core position of the organization of school stakeholders?

College students are consumers of higher education. Many college students in the world need to pay a certain amount of tuition to the school. In this way, it is more logical and reasonable to call the students as the consumers of colleges and universities. One of the characteristics of consumers is to compare their economic expenditure and the value of their goods, that is, they think about the purchased goods or the cost performance of service, and the student consumers are no exception. Colleges and universities need to reexamine college students and their interest demands, always focus their attention on student stakeholder groups, and devote themselves to providing high quality educational services for students stakeholder groups, in order to let them have the educational experience that their demands are respected and valued and make them experience excellent quality and reasonable price education.

College students are spokesmen for other stakeholders. As the core stakeholders, college students do not only represent their own interest demands, but also bear the interests of parents, society, employers and other groups. College students are the link between colleges and interests of many stakeholders, and play an irreplaceable role as a bridge. If the interest demands of the students are realized, the interests of parents, society, employers and other stakeholders who are closely related to college students will also be realized. In the organization of university stakeholders, because of the close relationship between students and many stakeholders, they become the spokesmen for the interest demands of these groups.

Parents group is the special stakeholder of school. In terms of the relationship, they are closest to the students, and have the most ardent expectation for students’ growth and success. They nurture their children, and accompany their children to study and live through trials and hardships, just in order to send their children to the institutions of higher learning. When the children pass the examination and go to college, they live frugally in order to provide economic security for children’s college learning. For many working families, they don’t have the ability to pay the tuition, accommodation expenses, living expenses, purchase fee of learning articles and electronic products and other expensive expenses. For families with financial difficulties, they even give all, and owe a lot of money. Therefore, the parents group has higher expectations for the purchased higher education service, and their interest demands should be paid close attention to by the institutions of higher learning.

Society is also an important stakeholder with students as the link. The core function of colleges and universities is to train talents for society. In terms of cultivating what kind of people and how to cultivate people, the colleges and universities should not act blindly. They are the normal information interaction between universities, students and society. The quality of talents exported by colleges and universities for society is directly related to the development of economic society, and is related to whether the social interest demands for colleges and universities are met. Therefore, colleges and universities should pay close attention to the social demand for talent specifications, and should also pay attention to the ability and accomplishment of students.
required by the society when these students enter into the society. Through the establishment of social practice platform, the link between students and society is established, and the ability of the trained students to adapt to the development of society is tested, so as to adjust the talent training strategy in time.

With the increasingly fierce competition of higher education, the employment rate has become an important indicator to evaluate a university, and this index is equivalent to the employer’s recognition degree of the training of students in this university. In the era that the market leads the employment, graduates must accept the test and screening of employers. Just as the sentence “working directly after graduation” proposed by Richard Madit who is the president of Bath University in Britain, employers’ requirements for graduates often reflect the characteristics of immediacy and sustainability. Employers hope that the person trained by the school can quickly adapt to the professional post, and can create value for the unit immediately, and meanwhile, they should also have the strong potential for development.

College students are the fresh force of democratic governance in colleges and universities. For university governance issues, (Jiao, 2015) proposed: The first one is to change the way of management of government for university, from direct management to indirect regulation; The second one is to introduce stakeholders to participate in university governance; The third one is to establish the division and restriction mechanism of university internal power and responsibility. (Pan, 2017) believes that stakeholders have different interest demands to universities, and some even conflict. In order to coordinate their interests and maximize the value of the organization, the residual control rights should be allocated inside various stakeholders according to the interest correlation degree of stakeholders and universities, the willingness and ability of the participation in university governance and the principle of unbalanced dispersion distribution. The residual control rights of these stakeholders influence and interact with each other, and are the reflection of the interest structure of university organizations, which constitute the main contents of the governance of university stakeholders. In order to achieve the democratic governance in colleges and universities, more stakeholders should be attracted to participate in it. As the core stakeholders of the first level, students are undoubtedly the fresh force of the democratic governance in colleges and universities.

3. RESEARCH ON THE NECESSITY AND FEASIBILITY OF MANAGEMENT MODE OF PARTICIPATORY COLLEGE LECTURES

3.1. The Significance of the Exploration of Management Mode of Participatory College Lectures

The concept of “student participation” was first proposed by the United States which can represent western countries. Chinese related researches started lately and many related concepts are borrowed directly from abroad. Without combination with actual situation of higher education in China, the research content is not rich enough and the research perspective is limited. Then looking at the practice of higher education, the compulsory administrative means like administrative orders still exist widely, and “student participation” stays more at the level of educational concept, lacking soil to take roots.

Harvard Business Review proposed in 1988 that era of experience economy has arrived, the consumer of higher education is one of the important role of student stakeholders, and universities should focus on providing quality education services and create a more wonderful “consumption experience” for students. The exploration of participatory lecture management mode in colleges is to stand in the perspective of students’ experience and examine the daily education work as well as explore their inner desire. Taking the students’ real feeling as the starting point, colleges should fully take account of the students’ needs and create the “participatory” education carrier guided by experience. Both the “student educator” participating in the lecture management and the “student consumer” of the education service will gain a valuable firsthand experience from this experience. At the same time, educators and students are more likely to establish harmonious teacher-student relationship, and further highlight the educational subject status of students.

Management mode of participatory lecture can improve the level of democratic management in colleges and universities. In On Democracy, (Scott, Mccracken and Norton, 2016) stresses that “democracy is determined by participation-the participation of social members is affected by policy in decision-making”, he believes that “the understanding of specific content of participation can make a rational valuation of democracy degrees achieved by any real society”. College students’ participation in school education management is not only an important way of university democracy, but also an important channel for school to respect students’ subjectivity, improve teaching quality and cultivate excellent talents. It is the only way for colleges and universities to promote the development of survival. The deep participation of students not only reflects democratization of university management, but also provides a practical training platform for students’ growth and development. Integrating management model of lectures into the “participatory” element is a reliable way to realize the democratization of university management, and it is an effective driving force to promote the democratization management process of universities.

The management mode of participatory lecture can promote the upgrading of educational management system in colleges and universities. The Ministry of Education of the people’s Republic of China clearly
required on “The National Medium and Long-term Educational Reform and Development Planning Outline (2010-2020): the modern university system with Chinese characteristics should be improved, the governance structure should be improved, the construction of student congress should be strengthened, and the role of mass organizations should be played. The “Outline” puts forward higher requirements for democratic management in colleges and universities and the treatment of the relationship among administrative departments, teachers and students. Introducing the theory of “participatory management” into the university management is a wise choice. The participatory management of lectures can strengthen the trust between students and school administrators and eliminate the gap between them, enhance the motivation of reform and innovation, and effectively promote the upgrades of education management system.

3.2. The Historical Evolution Basis of the Management Mode of Participatory Lectures

Combining the historical origin of the application of college students in school education management, it is not difficult to find that both eastern and western countries have the rich soil to implement the management mode of university participatory lectures. In the education history of ancient China, although there are “Zhaizhang System” in official school and “management by excellent students instead of teachers system” in ancient academy, generally speaking, educational institutions mainly serve as a tool to maintain feudal rule for a long time, and give students less opportunities and range to participate in management (Tarhini, Teo and Tarhini, 2016). The students can only hope for the success of the career, and dare not to expect to participate in the education management of school. With the introduction of western learning into China in modern new education, the participation consciousness of students in management began to sprout, and during the period of the new democratic revolution, the student autonomy organizations have been growing rapidly. After the founding of new China, although there were ups and downs, with the reform and opening up and rapid development of higher education, finally it became better. The origin of foreign students’ participation can be traced back to Medieval Universities. And the Bologna model made the participation rights of students reach the peak of history. In the late 15th century, the participation rights of students were gradually weakened, and most universities in Europe implemented the management mode of “patriarchal system” for a long period of time. The participation rights of students were recognized once again until the “Humboldt reform” opened the new era of modern university. Since the 1980s, more and more universities have attached importance to it.

4. THE FOUR-DIMENSIONAL STRUCTURE MODEL OF “PARTICIPATORY MANAGEMENT” SOLVES THE PROBLEMS OF MANAGEMENT MODE OF TRADITIONAL LECTURES.

Participatory management is a management system with the “democratic leadership and incentive rules” as the core. The main idea is to cultivate the self-esteem, sense of responsibility and the sense of career of the members of the organization, which makes them work hard and achieve organizational goals effectively. Its essence lies in “equal participation”, “common decision-making” and “effective supervision”. The theory emerged in the early 1930s. After the 1950s, it was widely adopted in the United States and Japan, and became the favorite of the corporate management practice. Then it has gradually been widely concerned by scholars, and has become one of the most important subjects in the field of management research. As a methodology and a means of work, it has been introduced into China for more than ten years.

Lawler, a representative of participatory management theory, has put forward a four-dimensional structure model of participatory management, including information sharing, knowledge development and training, reward and identification system and power sharing, among which the focus of information sharing dimension is the open and open communication of information. The dimension of knowledge development and training focuses on the improvement of decision making and problem solving ability of participants, which enables participants to fully understand the organization and their role in work and make contributions. The central content of reward and identity system dimension is to encourage the people participating in management to obtain information and acquire skills, so as to ensure the undertaking of more responsibility for participation in management, and improve participation validity. The right sharing dimension is to ensure the parallel structure relationship of the groups in the process of management, so that the participation groups can effectively use the relevant information and knowledge to participate in decision-making and management, so as to meet their self-realization.

Student Needs can be Clarified and the Attraction of Lectures can be Enhanced. It is difficult for organizers to accurately grasp the students’ demand for the number and theme of lectures, which often leads to the lack of pertinence and attractiveness of the lectures, and gives students the “ungrounded” impression. In the four-dimensional structure model, the information sharing dimension highlights the openness and open communication of information. Through the participatory management of students, the college fully publicizes the phased work objectives and related planning strategies, and adopts the open way to listen to the opinions and suggestions of the majority of students.
Incentive and restraint can be carried out simultaneously and the attendance rate can be improved. By effectively stimulating students’ work motivation and service spirit, participatory management can improve the working efficiency of lecture management. The traditional lecture management mode can not realize fine operation because of limited management personnel. However, after introducing the concept of participatory management, students cadres inject infinite vitality and vigor into the management of lectures. The amazing workload of discipline management and post assessment work is unimaginable in the traditional mode, and it can not be accomplished at all, but the wide participation of students can solve the problem easily. Through meticulous preparation of the advance publicity, lecture venue layout, discipline management and related assessment work of lectures, the participating students can solve the problem of uneven attendance of lectures, and through participatory management, the attendance rate of college lectures will be improved significantly.

The experience platform can be provided to promote the growth of participating students. Participatory management can provide students with personal growth experience platform, enhance students’ sense of ownership, and promote their full exploitation of personal potential. Colleges will pay high attention to the improvement of decision making and problem solving ability of participating students, which enables them to fully understand the organization and their role in work and make contributions for campus lectures, so that the participating students can acquire the esteem needs and self actualization needs, so as to encourage them to work hard in the following learning life.

The equal relations can be constructed and the relationship between students and schools can be improved. In the management of participatory college lectures, the “stereotype” of the lecture management in the minds of the students is changed, the autonomy and right to speak of the students are respected, the parallel structure relationship among teachers, student cadres and ordinary students in the process of management is ensured, and the management right of the lecture is shared to each student, so as to further improve the relationship between school and students, and promote the school to advance towards the high satisfaction of students, high recognition of society and high education quality of talent training.

5. THE REALIZATION APPROACH OF THE MANAGEMENT MODE OF PARTICIPATORY LECTURES IN COLLEGES AND UNIVERSITIES

5.1. Respect the Students’ Right to Speak, and Carry out the “Participatory” Theme Selection Model

In order to better enhance the quality of campus lectures, and enhance the effectiveness of lectures, the author’s school carefully builds the campus culture brand “Boya lecture hall”. At the beginning of each semester, the full-time teachers set up special lectures according to students’ professional needs, and preliminarily determine the optional menu for a semester lecture and publicize them. Students can independently choose the lectures on the public menu according to their individual interests, and the lectures that the number of people is not enough will be eliminated. Compared with the traditional lecture management mode, the biggest difference of the operation mode of participatory selection of lecture topics is that the single subject dominated by organizer carried out by campus lecture activities is upgraded to the double subjects with students and organizers participating in decision making. This not only fully mobilizes the enthusiasm of students participating in campus lectures, but also relieves the outstanding problem of imbalanced attendance rate in the lecture to some extent, and meanwhile, it also makes the speaker deeply think the choice of topics, dig out the lecture flash point that students are interested in, and enhance the frontier, novelty and sense of the times of lectures from the perspective of the “student consumer”.

5.2. Stimulate the Participating Enthusiasm and Multi-directionally Provide the Management Platform of Students Participating Lecture

Students rely on the university to achieve personal growth and success, while the university also relies on students to maintain survival and development. In the process of fulfilling the functions of teaching, scientific research and serving the society, the university always needs the participation of students, and the ultimate direction of all these activities is the individual development and growth and success of students.

The survey shows that the most college students get the lecture information through traditional posters and other forms. There are some disadvantages in this kind of relatively single information distribution channel, which should arouse our attention, for example, there are many posters on campus, but the effect is not ideal. Posters are often not displayed in time, or the posting area is limited, or posters are not placed in the conspicuous position, so that many students often regret that they have missed the lecture. In addition, there are still some shortcomings in the poster propaganda, for example the introduction information is not image, and the attraction to students is limited.

It is helpful to improve the pertinence and effectiveness of publicity by introducing the stakeholder-student into the advance publicity of lectures. When students organize relevant departments to carry out the work, they will be more aware of how to convey the lecture information vividly and specifically to the students, how to make the core content more eye-catching and how to attract students’ attention. In addition, they will carry out
propaganda through the combination of propaganda window, display board, micro-blog and other diversified forms, in order to make the propaganda content root in the hearts of the people, and strive to realize the diversity, timeliness and effectiveness of the lecture information release channels.

Student organizations play an important role in strengthening the standardized management of lectures. All kinds of student organizations can divide the work and display their own ability. There are departments responsible for site arrangement, departments responsible for liaison with the speakers, and sound control departments responsible for debugging and ensuring all kinds of hardware facilities.

In order to promote the improvement of cultural quality cultivation and theoretical level of college students, colleges and universities often encourage students to actively participate in academic exchanges. Therefore, it is very important to regulate the discipline management of students’ participation in lectures. The participation of students makes it possible to strictly implement lecture management. Taking the author’s school as an example, according to the summary of self selection of menu lectures at the beginning of the semester, the “lecture information recording card” is issued to the students by the organizations responsible for students. The students themselves need to use the card to enter the lecture site, and the students are not allowed to enter the lecture after twenty minutes. The department responsible for discipline inspection arranges the lecture personnel on duty, and at the end of the lecture, they will stamp the “lecture information record card”, and verify and collect the attendance rate of the lecture. Each person has a card, and the card whose information is incomplete or not neat will not be certified.

The “lecture information recording card” is kept by the students themselves, and is handed over to the student organization department responsible for the examination at the end of each semester. The participation of students in lectures is put into the identification range of quality development credit. The number of students attending lectures in one semester can be converted into a certain amount of quality development credits. The supervision and restriction mechanism should be constructed and improved, and colleges should organize the speakers of lectures, counselors, head teachers, department officers to form inspection teams to regularly check the management situation of lecture assessment in order to ensure the openness, fairness and justice of the lecture assessment.

6. MANAGEMENT MODE OF PARTICIPATORY LECTURES BASED ON PLANNING AND DECISION MAKING THROUGH OPERATIONS

If there are \( n \) geographical samples, each sample has \( p \) variables forming a \( n \times p \) order of geographic data matrix.

\[
X = \begin{bmatrix}
 x_{11} & x_{12} & \cdots & x_{1p} \\
 x_{21} & x_{22} & \cdots & x_{2p} \\
 \vdots & \vdots & \ddots & \vdots \\
 x_{n1} & x_{n2} & \cdots & x_{np}
\end{bmatrix}
\]  

\( x_{1}, x_{2}, \ldots, x_{p} \) is the original variable index, and \( z_{1}, z_{2}, \ldots, z_{m} \) is new variables (principal components), then the linear combination is

\[
\begin{align*}
 z_1 &= l_{11}x_1 + l_{12}x_2 + \cdots + l_{1p}x_p \\
 z_2 &= l_{21}x_1 + l_{22}x_2 + \cdots + l_{2p}x_p \\
 &\vdots \\
 z_m &= l_{m1}x_1 + l_{m2}x_2 + \cdots + l_{mp}x_p
\end{align*}
\]

(2)

Factor analysis is the process of reconstructing a small number of representative factor variables from many primitive variables. The potential requirement is that there is a strong correlation between the original variables. Therefore, correlation analysis is necessary to calculate the correlation coefficient matrix between the original variables. If the correlation coefficient matrix is used in statistical tests, most of the correlation coefficients are less than 0.3 and not passed the test, then these original variables are not suitable for factor analysis.
Calculating variance contribution rate and cumulative contribution rate of common factor $Z_i$ according to the characteristic root of the correlation coefficient matrix.

$$\frac{\lambda_i}{\sum_{k=1}^{p} \lambda_k} \quad (i = 1,2,\cdots, p)$$

$$\frac{\sum_{i=1}^{j} \lambda_i}{\sum_{k=1}^{p} \lambda_k} \quad (i = 1,2,\cdots, p)$$

The principal component load is calculated and the load matrix $A$ is constructed.

$$A = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1m} \\ a_{21} & a_{22} & \cdots & a_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ a_{p1} & a_{p2} & \cdots & a_{pm} \end{bmatrix} = \begin{bmatrix} l_{11} \sqrt{\lambda_1} & l_{12} \sqrt{\lambda_2} & \cdots & l_{1m} \sqrt{\lambda_m} \\ l_{21} \sqrt{\lambda_1} & l_{22} \sqrt{\lambda_2} & \cdots & l_{2m} \sqrt{\lambda_m} \\ \vdots & \vdots & \ddots & \vdots \\ l_{p1} \sqrt{\lambda_1} & l_{p2} \sqrt{\lambda_2} & \cdots & l_{pm} \sqrt{\lambda_m} \end{bmatrix}$$

DPS13.0 data processing system software is used to standardize the original data, so as to eliminate the difference of magnitude and dimension between variables. Then the correlation matrix and its eigenvalues and eigenvectors of the normalized data are obtained. The main factor determining the total amount of information is 80%, and the eigenvalue, contribution rate and cumulative contribution rate are obtained, as shown in Table 1.

**Table 1. Principal factor load matrix**

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Common degree</th>
<th>Special variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>0.19165587</td>
<td>0.965171064</td>
<td>0.968287155</td>
<td>0.0317122845</td>
</tr>
<tr>
<td>X2</td>
<td>0.798648078</td>
<td>0.290388095</td>
<td>0.722163998</td>
<td>0.277836002</td>
</tr>
<tr>
<td>X3</td>
<td>0.904435978</td>
<td>0.025504929</td>
<td>0.818654939</td>
<td>0.181345061</td>
</tr>
<tr>
<td>X4</td>
<td>0.75425846</td>
<td>0.368842804</td>
<td>0.704950838</td>
<td>0.295049162</td>
</tr>
<tr>
<td>X5</td>
<td>0.19165587</td>
<td>0.965171064</td>
<td>0.968287155</td>
<td>0.0317122845</td>
</tr>
<tr>
<td>X6</td>
<td>0.798648078</td>
<td>0.290388095</td>
<td>0.722163998</td>
<td>0.277836002</td>
</tr>
<tr>
<td>X7</td>
<td>0.904435978</td>
<td>0.025504929</td>
<td>0.818654939</td>
<td>0.181345061</td>
</tr>
<tr>
<td>X8</td>
<td>0.75425846</td>
<td>0.368842804</td>
<td>0.704950838</td>
<td>0.295049162</td>
</tr>
<tr>
<td></td>
<td>Variance contribution</td>
<td>4.122961974</td>
<td>2.305151887</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cumulative contribution%</td>
<td>51.53702468</td>
<td>80.35142326</td>
<td></td>
</tr>
</tbody>
</table>
In the Table 1, X1 represents the supply and demand of unity, X2 indicates the index of the sense of gain and belonging for involvement managers, X3 represents the degree of recognition for involvement managers, X4 represents the degree of ability improvement for involvement managers, X5 represents the validity of the operation mechanism, X6 represents the degree of information disclosure, X7 represents the initiative level for involvement managers, X8 represents the performance management organization.

Table 2. The main sub load matrix after simplification

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>0.9651711</td>
</tr>
<tr>
<td>X2</td>
<td>0.7986431</td>
</tr>
<tr>
<td>X3</td>
<td>0.904436</td>
</tr>
<tr>
<td>X4</td>
<td>0.7542585</td>
</tr>
<tr>
<td>X5</td>
<td>0.9651711</td>
</tr>
<tr>
<td>X6</td>
<td>0.7986481</td>
</tr>
<tr>
<td>X7</td>
<td>0.904436</td>
</tr>
<tr>
<td>X8</td>
<td>0.7542585</td>
</tr>
</tbody>
</table>

Table 2 is the main factor of simplified load matrix, and it can be clearly found that the factor 1 and X2, X3, X4, X6, X7, X8 have a high correlation, which mainly reflects the students' participation in management, subjective experience and objective effect. The factor 2 and X1, X5 have a high correlation, which mainly reflects the scientificity and standardization of the management system of participatory lectures.

Since the 2 factors account for 80.35% of the total information, the attributes of each factor have a large correlation. Therefore, it is reasonable to use 2 main factors to describe the influencing factors of participatory lecture management model.

7. CONCLUSION

Management mode of participatory lecture adapts to the realistic needs of the connotation development of colleges. Colleges and universities are important institutions of talent training. With the rapid development of higher education transferring from the elite to the popularization, the number of people receiving higher education has increased dramatically and the quality problem of higher education has gradually highlighted, so all kinds of colleges and universities are facing tremendous pressures. Under the new situation, colleges and universities are facing unprecedented opportunities and challenges: how to fully understand the importance and urgency of strengthening the connotation construction of higher education, how to find out the crux of the obstacles improving the quality of personnel training, how to change the “stereotypes” in students’ minds and how to improve students’ sense of ownership. All of these have become the problems that college educators have to face and solve. Management mode participatory lecture will effectively promote the connotation construction and development of careers of colleges and universities, further improve the relationship between schools and students, and constantly promote the school to advance towards the high satisfaction of students, high recognition of society and high education quality of talent training.

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